

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for indicating that claims 7, 8, 11, and 23 contain allowable subject matter.

I. Disposition of Claims

Claims 1-26 are pending in this application. Claims 1 and 19 are independent. The remaining claims depend, directly or indirectly, from claims 1 and 19.

II. Amendments to the Claims

Claim 19 has been amended to include the limitations of claim 23, which the Examiner indicated to contain allowable subject matter. Accordingly, claim 23 has been canceled. No new matter has been added in the amendment.

III. Rejection(s) under 35 U.S.C § 102

Claims 1-6, 9-10, 12-22, and 24-26 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,646,437 issued to Chitale *et al.* This rejection is respectfully traversed.

Claims 1-6, 9, 10, and 12-18

Claim 1 recites a method for determining properties of a *mixture of fluids*. The method includes acquiring a plurality of nuclear magnetic resonance ("NMR") measurements from the mixture of fluids. Each of the NMR measurements have a different value in an acquisition parameter for which at least one relaxation selected from

a group consisting of longitudinal relaxation and transverse relaxation affects magnitudes of the NMR measurements. The method further includes generating a model of the *mixture of fluids* and calculating a synthesized nuclear magnetic data set based on that model. The synthesized data set is compared to the NMR measurements. If necessary, the model is adjusted in an iterative method until the difference between the synthesized data and NMR measurements is below a minimum value.

In contrast, Chitale discloses a method for determining petrophysical properties of *geological formations* containing clay materials. Chitale provides a model of the *geological formation* comprising a wetness parameter. Log data from the corresponding geological formation is provided. A constrained inversion analysis is then performed on the log data using the model.

Chitale is completely silent on determining the properties of a mixture of fluids, as recited in claim 1. The methods disclosed in Chitale only relate to determining the amount of hydration in the formation. Thus, Chitale deals with the detection of a single species of fluid (water), not a mixture of fluids. Chitale does not suggest that the disclosed method may even be appropriate for determining properties of a mixture of fluids. For at least these reasons, Chitale cannot be considered to anticipate claim 1.

In view of the above, Chitale fails to show or suggest the present invention as recited in claim 1. Thus, claim 1 is patentable over Chitale. Dependent claims are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 19-22 and 24-26

Claim 19 has been amended to include the limitation recited in claim 23, which

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the Examiner considered to contain allowable subject matter. For at least this reason, claim 19 is patentable over Chitale. Dependent claims 20-22 and 24-26 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

IV. Allowable Subject Matter

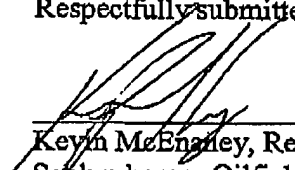
In view of the above, Applicant respectfully defers re-writing claims 7-8 and 11 in independent form.

V. Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account SLB 19-0610 (Reference Number 20.2798).

Respectfully submitted,

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